CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER # 96-086

REVISION OF SITE CLEANUP REQUIREMENTS
RESCISSION OF ORDER NO. 94-123 FOR:

CITY AND COUNTY OF SAN FRANCISCO

for the property located at

2500 24TH STREET (FORMERLY 2548 24TH STREET)
CITY AND COUNTY OF
SAN FRANCISCO

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. **Site Location:**

The site (Figure 1) formerly known as the S.F. Municipal Railway Maintenance Facility (Muni Maintenance Facility), is located on the City block bounded by 23rd Street, Utah Street, San Bruno Avenue, and 24th Street (Assessor's Block 4213, Lot 1). The former Muni Maintenance Facility address was 2548 Utah Street. In 1994, the Muni Maintenance Facility was demolished and in its place the new San Francisco General Hospital Parking Garage (SFGH Parking Garage) was constructed. The SFGH Parking Garage address is 2500 24th Street. In December 1995, a Groundwater Treatment and Soil Vapor Extraction System was constructed on the garage premises at the southeast corner of the site. The site is located in a commercial district, bounded on the south, east and west by residential/commercial dwellings. San Francisco General Hospital is to the north. The nearest surface water body is Islais Creek, approximately 4,500 feet southeast of the site.

2. **Site History:**

The following is a summary list of major activities performed at the site since January 1987:

1987

Nine underground storage tanks, located north of 24th Street on the west side of San Bruno, were removed. High levels of Total Petroleum Hydrocarbons, matching Gasoline and Diesel patterns, were found after conducting both, soil and ground water analysis for gasoline and diesel under EPA approved methods. Eight of the nine tanks were noted to have holes ranging from 1/4 inch to 2 feet in diameter.

1989-1990

Eleven soil borings were drilled of which nine were converted into monitoring wells. Floating product was observed in several of the wells, ranging from 0.14 feet to 3.9 feet in thickness. The maximum soil concentrations found were 8,000 mg/kg, 17,000 mg/kg and 250 mg/kg for TPH-Gasoline, TPH-Diesel, and BTEX compounds, respectively.

1991

A continuous aquifer test was performed which indicated that the aquifer had a yield of 20 gallons per minute from a single well head. It was also determined that the groundwater had total dissolved solids (TDS) values of less than 3000 ppm.

1992- 1993

Four soil vapor extraction wells (SVE) were installed and initiated to remove benzene concentrations below the detection limit. The wells were four inches in diameter and ranged in depth from 25-30 feet. The consultants for the City and County of San Francisco estimated a removal time of 6 to 12 months. This objective was not achieved.

January 1994

The Soil and Groundwater Restoration Conceptual Design report was issued. In the report the City's consultant, Harding Lawson and Associates (HLA), proposed an in-situ bioremediation system consisting of injection wells in the source area and extraction wells placed so as to: 1) capture injected groundwater, 2) contain and remove groundwater with dissolved hydrocarbons, and 3) enhance the delivery of nutrient-enriched and oxygenated water to soil and groundwater impacted by hydrocarbons.

March 1994

HLA began the first quarter 1994 groundwater monitoring. A report summarizing results of monitoring was issued in April 1994.

June 1994

The second quarter 1994 groundwater monitoring was begun. The report

summarizing results of the monitoring was issued in September 1994.

July 1994
The City in conjunction with HLA issues the Revised Work Plan Amendment, Soil and Groundwater Restoration, Muni Maintenance Facility report.

August 1994
The revised workplan amendment was approved by Regional Board staff on August 18, 1994.

October 1994
The Groundwater Monitoring Plan (Plan) was submitted to the RWQCB, per Order 94-123. The Plan outlines a groundwater monitoring program consisting of quarterly groundwater elevation and free-phase petroleum product thickness measurements and continued quarterly sampling and analysis. Groundwater analyses include total petroleum hydrocarbons as gasoline and for benzene, toluene, ethyl benzene, and xylenes.

HLA performs additional subsurface investigation at the site per the July 1994 Work Plan Amendment.

November 1994
HLA performed the Fourth Quarter 1994 Groundwater Monitoring field work. The report was issued in December 1994.

December 1994
The Final Site Remediation Plan (Plan) was submitted to the RWQCB, per Order 94-123. The Plan was prepared by City staff working in conjunction with HLA. The Plan describes remedial actions to be taken to control, abate and remove pollution found in on- and offsite soil and groundwater as a result of a release of fuels from nine former USTs.

February 1995
The interim Soil Vapor Extraction (SVE) system was turned-off to facilitate both the SFGH Parking Garage construction and the expansion of the SVE system as proposed in the Final Site Remediation System Plan.

April 1995
The First Quarter 1995 Groundwater Monitoring field work was performed. The report was issued in April 1995.

April 1995
HLA issued the Qualitative Health Risk Assessment Report. A community

meeting was held in May 1995 to discuss the Health Risk Assessment findings.

June 1995
The Second Quarter 1995 Groundwater Monitoring Report was not submitted to Board staff.

August 1995
The RWQCB issued a letter of approval for the Final Site Remediation Plan.

September 1995
The Third Quarter 1995 Groundwater Monitoring Report was not submitted to Board staff.

December 1995
HLA performs 1995 fourth quarter groundwater monitoring field work. The report is issued in March 1996. Second and third quarter 1995 monitoring was suspended due to garage and remediation system construction activities.

The remediation system start-up testing, repairs, and fine-tuning of system components commences.

January 1996
The remediation system start-up procedures continue. Extraction well pump tests are performed at each well. Two wells that were damaged during installation are replaced and returned to operation. The SVE unit begins 24-hour operation.

February 1996
Per start-up protocol, a fourteen day continuous extraction pump test is initiated. The fourteen day period was continually interrupted due primarily to leaks in the extracted groundwater conveyance hoses. The original hose was removed and new hose was installed. The fourteen day continuous pump test was re-initiated.

March 1996
The extraction system passed the fourteen day continuous operation test period. The clean water injection test was initiated.

3. **Named Dischargers:** The City and County of San Francisco has owned and operated underground storage tanks since the early 1940's and is named as

the sole discharger.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding that party's name to this order.

4. **Regulatory Status:**

This site is presently subject to the following Board order:

Site Cleanup Requirements (Order No. 94-123) adopted on September 21, 1994

5. **Site Hydrogeology:**

The site is generally underlain by unconsolidated alluvial deposits from the Yerba Buena Creek and Islais Creek drainages off the west side of Potrero Hill. Logs of borings drilled at the site indicate that these sediments generally consist of silty sand, clayey sand, and sandy silt, sandy clay with occasional units of poorly graded sand from the ground surface to the total depth drilled (14.5 feet to 50 feet below ground surface (bgs)). Based on the depth of bedrock encountered in borings drilled at the site (14.5 to 41 feet bgs), the single aquifer appears to thin east of the site. Groundwater elevations range from 29.10 to 20.52 feet San Francisco Datum and vary 1 to 2 feet seasonably. During the past four years, groundwater flow has been to the south-southwest to south-southeast. The hydraulic gradient measured in December 1995 ranged from approximately 0.006 to 0.013 feet.

6. **Remedial Investigation:**

Soil

Nine Underground Storage Tanks (USTs) were removed from the former Muni Maintenance Facility in 1987. The tanks were located in the southeast corner of the site. Total Petroleum Hydrocarbon (TPH) analytical results of soil samples collected from the UST excavation ranged from 327 milligram per killigram (mg/kg) to 23,000 mg/kg. In 1989, additional analytical results of soil samples collected in the vicinity of the former USTs indicated concentrations of benzene, toluene, ethyl benzene, and xylene (BTXE) ranging from 36 to 250,000 micrograms per kilogram (ug/kg). A soil investigation was performed at the former Muni Maintenance Facility Pump Island in March 1995. The Pump Island was located in the southeast corner of the site adjacent to the

former USTs. Soil samples collected in this area had BTEX concentrations ranging from 8,100 to 120,000 ug/kg.

Groundwater

Past groundwater investigations at the site indicate the presence of petroleum hydrocarbon contamination. Floating petroleum product has been observed in onsite wells at and in the vicinity of the former USTs, as well as in offsite monitoring wells down gradient of the former USTs. Product thickness in onsite wells ranges between 0.98 to 3.9 feet. Product thickness in offsite wells ranges between 0.14 to 3.72 feet. Both on- and offsite groundwater analytical data indicate that BTEX concentrations exceed Federal and State Maximum Contaminant Levels for benzene.

7. **Interim Remedial Measures:**

Groundwater

Between 1991 and 1995, free product recovery was initiated as an interim measure to remove product from the subsurface during the designing of the Final Remediation System. It was determined that rates of recovery were marginal because of subsurface soil conditions which were not conducive to effective product recovery. During this period approximately 151 gallons of product were removed from the subsurface.

Construction of the Final Soil and Groundwater Treatment System began in June 1995. In December 1995, the groundwater extraction portion of the treatment system began start-up operations.

Soil

In 1992, information obtained from a Soil Vapor Extraction (SVE) pilot test indicated that an enhanced SVE system would be effective in petroleum hydrocarbon removal from the vadose zone at the site. In 1993, an interim SVE system comprised of four SVE wells and a thermal oxidizing unit began operation. The interim SVE system operated from August 1993 to February 1995. By February 1995, an estimated 14,000 lbs. of petroleum hydrocarbons had been removed, a quantity equivalent to approximately 2,010 gallons. The SVE system was turned off in February 1995 during the demolition of the Former Muni Maintenance Facility and ensuing construction of the SFGH Parking Garage. In December 1995, an expanded SVE system was constructed and began operation as part of the Final Site Remediation Plan. The Final SVE System is comprised of seven SVE wells and a thermal oxidizing unit.

During mass excavation of the SFGH Parking Garage foundation, approximately 3,600 tons of petroleum contaminated soil was excavated and segregated from other onsite soil and hauled offsite for proper disposal. Of the 3,600 tons, a majority originated from the southeast corner of the site in the area of the former USTs. Lesser quantities were excavated from the west side of the site in the area of the former Muni Maintenance Facility's service bays.

8. **Adjacent Sites:**
Petroleum hydrocarbon contamination was detected in groundwater samples collected from MW-11, located east of the site. Based on data from temporary well points installed east of San Bruno Avenue in 1994, petroleum hydrocarbon contamination found in groundwater samples from MW-11 are not associated with the Former Muni Maintenance Facility site. The source of this contamination remains unknown.

Two known USTs are located in the vicinity of the site: 1) Two USTs at 1175 Potrero Street reportedly containing gasoline and paint thinner. 2) Two USTs at 1262 Utah Street reportedly containing gasoline and diesel. It does not appear that these sites have caused pollution to emanate onto this site.

9. **Basin Plan:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23, California Code of Regulations, Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

The potential beneficial uses of groundwater underlying and adjacent to the site include:

a. Municipal and domestic water supply
b. Industrial process water supply
c. Industrial service water supply
d. Agricultural water supply

At present, there is no known use of groundwater underlying the site for the above purposes. However, historically within the Islais Basin, there have been drinking water wells. The nearest surface water body is Islais Creek, 4,500 feet southeast of the site. The existing and potential beneficial uses of Islais Creek and the adjoining San Francisco Bay Central include:

a. Ocean,Commercial, and Sport Fishing
b. Industrial process supply or service supply
c. Groundwater recharge
d. Water contact and non-contact recreation
e. Wildlife habitat
f. Fish migration and spawning
g. Navigation
h. Estuarine habitat
I. Shellfish harvesting
j. Preservation of rare and endangered species

10. **Other Board Policies:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

    Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels.

11. **State Water Board Policies:** State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in accedence of applicable water quality objectives.

    State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

12. **Preliminary Cleanup Goals:** The discharger will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial actions. Pending the establishment of site-

specific cleanup standards that are consistent with RWQCB risk based cleanup guidelines, the following preliminary cleanup goals should be used for this purpose:

a. Groundwater: Applicable water quality objectives (e.g. maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, risk-based levels (e.g. drinking water equivalent levels).

b. Soil: 10 mg/kg total petroleum hydrocarbons quantified as gasoline and diesel.

13. Basis for 13304 Order: The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

14. Cost Recovery: Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

15. CEQA: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

16. Notification: The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

17. Public Hearing: The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. PRODUCT RECOVERY REPORTS

COMPLIANCE DATE: MONTHLY BEGINNING JULY 15, 1996 TILL JULY 15, 1997; THEREAFTER SEMIANNUALLY

Submit a report acceptable to the Executive Officer documenting the amount of free product removed during operation of the remediation system for the prior month or, beginning January 15, 1998, for the prior six months ending December 31, 1997. For example, the July 15, 1996 report shall include total product removed for June, 1996. The January 15, 1998 report shall include total product removed for the July 1, 1997 through December 31, 1997. Each report will include a comparison of product removed for the reporting period versus prior reporting periods.

2. SEMIANNUAL GROUNDWATER MONITORING REPORTS

COMPLIANCE DATE: BEGINNING JULY 30, 1996

Submit Semiannual Groundwater Monitoring Reports, acceptable to the Executive Officer, beginning July 30, 1996 for the January 1 through June 30, 1996 period. Wells shall be sampled and analyzed according to the Self-Monitoring Program(Attachment 2), item 2. If a proposal is submitted to alter the monitoring schedule or alter the specific wells to be sampled, approval must be given by the Executive Officer.

3. SEMIANNUAL OPERATION, MAINTENANCE, AND PERFORMANCE EVALUATION OF REMEDIATION SYSTEM FOR SOILS AND

GROUNDWATER

COMPLIANCE DATE: BEGINNING JULY 30, 1996

Submit semiannual technical reports, beginning July 30, 1996 for the January 1, 1996 though June 30, 1996 period, acceptable to the Executive Officer, which evaluate the effectiveness of the remedial system in addressing both polluted soil and groundwater. These reports shall describe any specific remediation operation and maintenance adjustments made for the treatment system to operate at or near optimum efficiency. Additionally, these reports shall document whether the treatment system is effective by using performance data for soil and groundwater such as mass removed over time, concentration reductions, zones of influence, hydraulic control of plumes, etc.. Plume maps shall be generated showing both product and dissolved concentrations of appropriate constituents. Also, isoconcentration maps would be required in the submittal of this report as well. This report may be submitted in combination with the Semiannual Groundwater Monitoring Report.

4. **FIVE-YEAR STATUS REPORT**

COMPLIANCE DATE: JULY 30, 2001

Submit a technical report acceptable to the Executive Officer containing:

a. Results of verification soil and groundwater samples on-site and off-site

b. Evaluation overall effectiveness of treatment system
c. Feasibility study of doing additional active remediation
d. Risk assessment
e. Recommended cleanup standards
f. Potential for Closure
g. Applicability of containment zone policy, if immediate closure is not attainable

Item a should define the current vertical and lateral extent of pollution for soil and groundwater both on and off-site. Item c should include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action. Items a through e should consider the applicability of using preliminary cleanup goals for soil and groundwater as identified in finding item 12. Additionally, results of verification borings done on and off-site shall be protective of

human health.

5. **Closure:** Should the system reach the preliminary cleanup goals as mentioned in finding item 12, then the site may be closed with the approval of the Executive Officer or his/her designee. Should the treatment system continue to reach an asymptotic level even after modifications are made or alternative cleanup standards are proposed and accepted by the Executive Officer, then the site will be considered for closure in a formal Board meeting.

6. **Delayed Compliance:** If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

C. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good Operation and Maintenance (O&M):** The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery:** The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:

a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

b. Access to copy any records required to be kept under the requirements of this Order.

c. Inspection of any monitoring or remediation facilities installed in response to this Order.

d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

5. **Self-Monitoring Program:** The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.

6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

8. **Reporting of Changed Owner or Operator:** The discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

9. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 286-1255 during regular office hours (Monday through Friday, 8:00 to 5:00).

   A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance,

estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

10. **Rescission of Existing Order:** This Order supersedes and rescinds Order No. *94-123*.

11. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The discharger may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 19, 1996.

Loretta K. Barsamian
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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Attachments: Site Map
Self-Monitoring Program

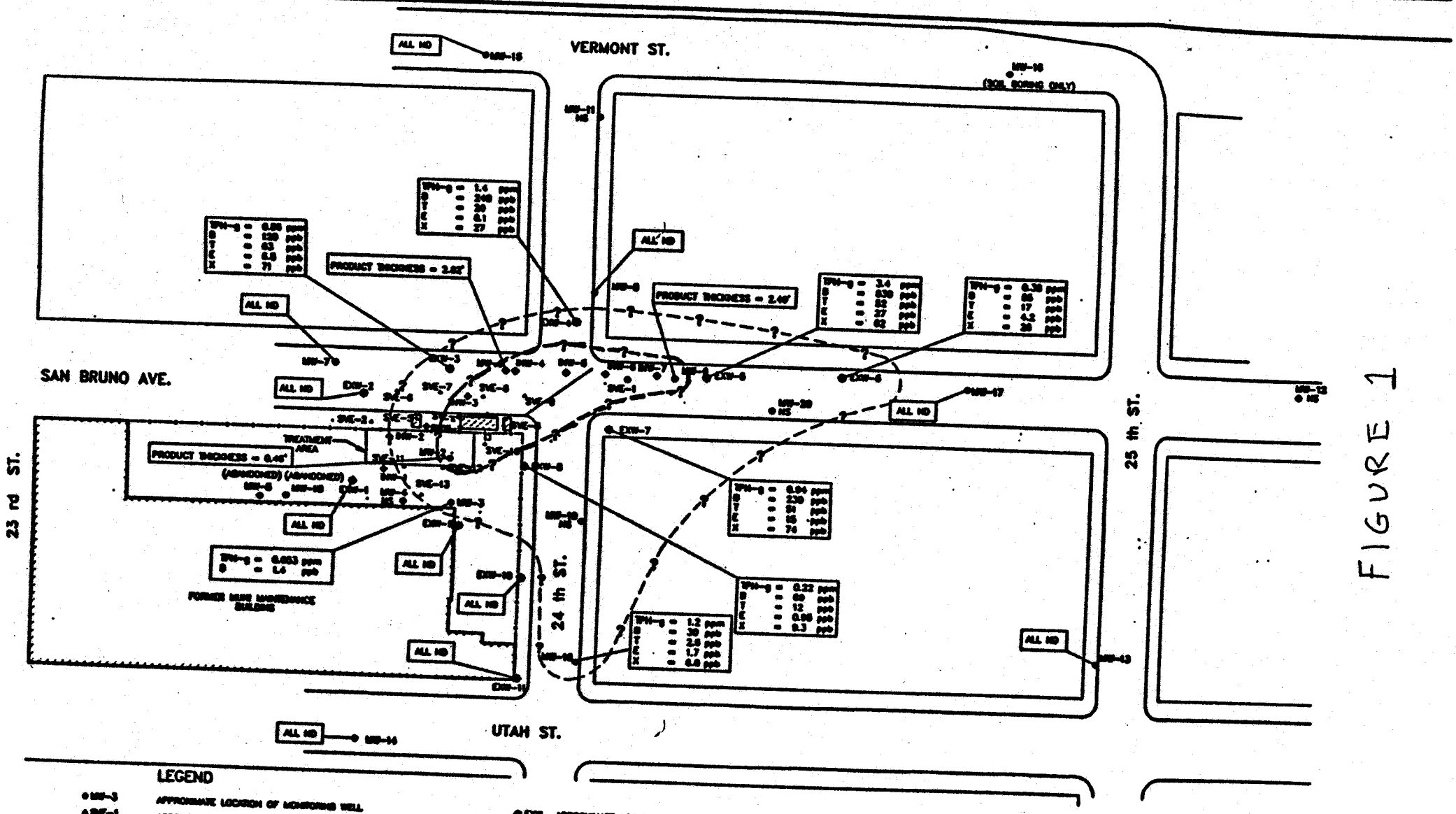

FIGURE 1

AGS, Inc.
Consulting Engineers
111 New Montgomery St. Suite 800
San Francisco, CA 94105

JOB NUMBER
950402A

ESTIMATED PETROLEUM HYDROCARBON DISTRIBUTI
MARCH 27, 1996
FORMER MUNI MAINTENANCE FACILITY
24th & UTAH STREETS
SAN FRANCISCO, CALIFORNIA

DATE
APRIL/96

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

CITY AND COUNTY OF SAN FRANCISCO

for the property located at

2500 24TH STREET (FORMERLY 2548 24TH STREET)
CITY AND COUNTY OF
SAN FRANCISCO

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. *96-086*.

2. **Monitoring:** The discharger shall measure groundwater elevations semi-annually in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following schedule:

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
MW-1	Q	8015/8020	MW-11	SA	8015/8020
MW-2	Q	8015/8020	MW-12	A	8015/8020
MW-3	Q	8015/8020	MW-13	A	8015/8020
MW-4	Q	8015/8020	MW-14	SA	8015/8020
MW-6	Q	8015/8020	MW-15	A	8015/8020
MW-7	A	8015/8020	MW-17	SA	8015/8020
MW-8	Q	8015/8020	MW-18	Q	8015/8020
MW-9	Q	8015/8020	MW-19	Q	8015/8020
			MW-20	Q	8015/8020

Key: Q = Quarterly 8015 = Modified EPA Method 8015 or equivalent

SA = Semi-Annually 8020 = EPA Method 8020 or equivalent
A = Annually

The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. If for any reason a well cannot be sampled according to schedule (i.e. contains free product, contains insufficient water, etc.) the report shall explain the reason why the well was not sampled. The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Semiannual Monitoring Reports:** The discharger shall submit semiannual monitoring reports to the Board no later than 30 days following the end of the half year (e.g. report for first half of the year due July 30). The first semiannual monitoring report shall be due on *July 30, 1996*. The reports shall include:

   a. Transmittal Letter: The transmittal letter shall be signed by the discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

   b. Groundwater Elevations: Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the second semiannual report each year.

   c. Groundwater Analyses: Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the second semiannual report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included.

   d. Groundwater Extraction: If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total

groundwater volume for the half year. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the half year. Historical mass removal results shall be included in the second semiannual report each year.

e. Status Report: The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following half year.

4. **Violation Reports:** If the discharger violates the prohibitions, tasks, or provisions in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports:** The discharger shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

6. **Record Keeping:** The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.

7. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Loretta K. Barsamian, Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on June 19, 1996.

Loretta K. Barsamian
Executive Officer